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Claims:

1. A process for recovering chlorine from chlorinator waste including the steps of:
5 forming a fluidised bed of chlorinator waste in a fluidising gas containing oxygen and treating the chlorinator waste with oxygen under conditions which promote conversion of metal chlorides into metal oxides and discourage oxidation of carbon contained in the waste.
- 10 2. A process according to claim 1, wherein the conditions which promote conversion of metal chlorides into metal oxides and discourage oxidation of carbon contained in the waste are obtained by controlling the superficial velocity of the fluidising gas, the proportion of oxygen in
15 the gas fed to the fluidised bed, oxygen to chlorinator waste feed ratio and temperature within the fluidised bed either separately or in combination.
3. A process according to claim 2, wherein the temperature of the fluidised bed is maintained in a range
20 from 400 to 700°C.
4. A process according to claim 2 or claim 3, wherein the superficial velocity of the gas is maintained in a range from 0.2 to 1 metre/second.
5. A process according to any one of claims 2 to 4,
25 wherein the stoichiometric ratio, R, is maintained in a range from 0.2 to 1.2.
6. A process according to any one of claims 2 to 5, wherein the temperature of the fluidised bed is maintained in a range from 550 to 650°C.
- 30 7. Apparatus for recovering chlorine from chlorinator waste, which apparatus includes a fluidised bed reactor, means for introducing chlorinator waste into the fluidised bed reactor, means for introducing a fluidising gas containing oxygen into the fluidised bed reactor and
35 means for controlling oxygen to chlorinator waste molar feed ratio, superficial velocity of fluidising gas, proportion of oxygen in the fluidising gas and temperature

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within the fluidised bed reactor.

8. Apparatus according to claim 7, including means for collecting particulate matter which leaves the fluidised bed reactor and means for quenching any unreacted chloride compounds.

9. Apparatus according to claim 8, wherein the means for collecting particulate material is a cyclone.

10. Apparatus according to claim 9, wherein the apparatus includes means for maintaining temperature in the cyclone above a level at which metal chlorides would condense but below that at which significant quantities of carbon would oxidise.

11. Apparatus according to claim 10, wherein the temperature of the cyclone is maintained in a range from 400 to 600°C.

12. A process for recovering chlorine from a mixture containing a metal chloride and carbon, the process including forming a fluidised bed of the mixture in a fluidising gas containing oxygen and converting the mixture under conditions which promote conversion of metal chlorides to metal oxides and discourage oxidation of carbon.

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